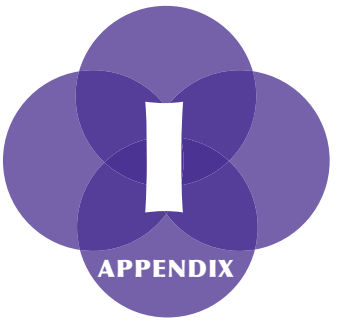

PROBLEM-SOLVING CYCLE

Purpose The purpose of this activity is to get all staff involved in thinking through a problem before jumping to solutions. This activity can also result in a comprehensive data analysis design. By starting with hunches and hypotheses, all staff can get their voices heard. When voices are expressed, there is a better chance of all staff using the information later and being part of the solution. (The first three steps in the problem-solving cycle are *key* and the focus of this activity.)

Target Audience All staff. Can also be used by teams at any time.

Time Twenty minutes for the first three steps of the cycle.

Materials Chart pad paper, masking tape or push pins, and markers.

Handouts for each participant: hunches and hypothesis, and questions and data templates. (Figures I-2 and I-3.)

Overview

When schools discover gaps or undesirable results, they naturally want to find solutions immediately to close the gaps. To permanently eliminate the gaps, schools must uncover root causes, or contributing causes (we believe there is more than one cause for undesirable results), and eliminate them, not the surface issues.

The problem-solving cycle is a great activity for getting all staff involved in thinking through undesirable results, or problems, before jumping to solutions. By starting with brainstorming hunches and hypotheses, all staff can be heard. When voices are expressed, there is a better chance of all staff using the information later. During the brainstorming, all staff members hear what they believe are the reasons for the undesirable results, or gaps. Next, staff will need to determine what questions must be answered with data (and what data) before the "problem" can be solved. Deeper data analyses result. (The first three steps in the problem-solving cycle are key and the focus of this activity.)

Process Protocol

Make sure each person has a copy of the handout and that you are prepared to help small groups identify their problem(s) in objective terms. You will need about one hour to get through the first three steps, if getting the data analysis design is your focus. Analyzing the data will take another two hours—probably at a different time. Developing the action plan will take days with small groups going back to the larger group. (See Appendix L, *Continuous School Improvement Plan.*) Implementing the action plan is the ongoing work of the learning organization, as is evaluating the implementation of the action plan, and improving the processes.

Step 1. Establish the size of the group(s) that will be going through this activity. Small groups are beneficial in allowing everyone to participate, even if groups are working on the same problem.

Step 2. Start with guidelines or ground rules of acceptable and unacceptable behavior, and how they will be monitored. Make sure it is a "safe" room for threat-free, honest, open discussion.

Process Protocol *(Continued)*

Step 3. Have each group clearly identify a problem to be solved, stated in objective terms. For example, *Not all students are reading at grade level by grade three*, as opposed to, *40 percent of our students are not capable of reading by grade three*. The problem should let you find the data.

Step 4. Brainstorm 20 hunches and hypotheses about why the problem exists (takes about ten minutes). This can spell out what teachers are thinking about the problem currently.

Please resist the urge to "prioritize" or analyze the hunches and hypotheses.

Step 5. Considering the problem, identify questions that need to be answered, with data, to find out more about the problem (e.g., *How many students have not been reading on grade level by grade three for the past three years?*) Get at least eight questions.

Step 6. For each question, determine the data that need to be gathered to answer the question. This list becomes the data analysis. Eye balling this list, one can see that for the most part, the data will fall into the four categories of *demographics, student learning, perceptions,* and *school processes.* (At this point, you should have uncovered new ways of looking at the problem. This might be as far as you go on this day.)

Step 7. Have the groups share their problem-solving cycle, letting others add to them, if appropriate.

Step 8. Gather and analyze the data. This is often where the schools have the most trouble because they do not have the data readily available. A data team could be assigned to help staff get the data.

Step 9. Continue with the problem-solving cycle through action planning and implementation.

Comments to the Facilitator

This is a very action-packed time period. If teams are working on different "problems," you might want to share.

If the hunches and hypotheses are truly brainstormed, the last four or five will be about as close to the contributing causes of the problem as a staff can get.

Some staff will want to use this activity to evaluate programs and processes. Some may want to use this process before a visioning process. The problem-solving cycle will work wherever it is needed.